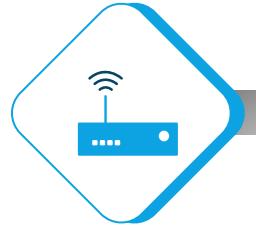
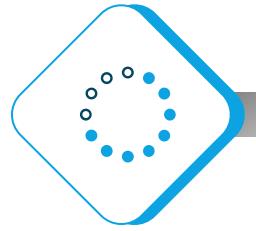




Very Small Aperture Terminal (VSAT)

What is Very Small Aperture Terminal (VSAT)?

-  VSAT is a **satellite-based communication** system that uses small dish antennas to provide connectivity
-  Operates over **GEO satellites** using high-capacity C, Ku-or Ka-band signals, delivering internet, voice, & data
-  **Self-contained, satellite-linked systems** with no dependency on terrestrial backbone, tower infrastructure, or last-mile fiber
-  Offers **reliable, quick connectivity** with download speeds up to 100 Mbps+ & upload of 10 Mbps 10+
-  Suitable for **greenfield, mobile or temporary** applications, in **remote locations** with unreliable connectivity

VSAT for Business

Why does your business need Very Small Aperture Terminal (VSAT)? (1/2)

1



Guaranteed Uptime & Remote Reach

- Always on, high availability connectivity in remote, rugged, or disaster-prone regions
- Enables critical communication links where terrestrial & mobile network is unreliable

2



Rapid Deployment & Scalable Architecture

- Quick installation independent of fiber/cellular footprint; ideal for urgent connectivity setups
- Supports modular scaling from single-site to nationwide footprints via satellite beams

VSAT for Business

Why does your business need Very Small Aperture Terminal (VSAT)? (2/2)

3



Secure & Customizable Enterprise Networks

- Enables private, encrypted connectivity via MPLS, VPN, GRE tunneling or IPsec based protocols
- Custom bandwidth & dedicated capacity to ensure traffic isolation & business grade QoS

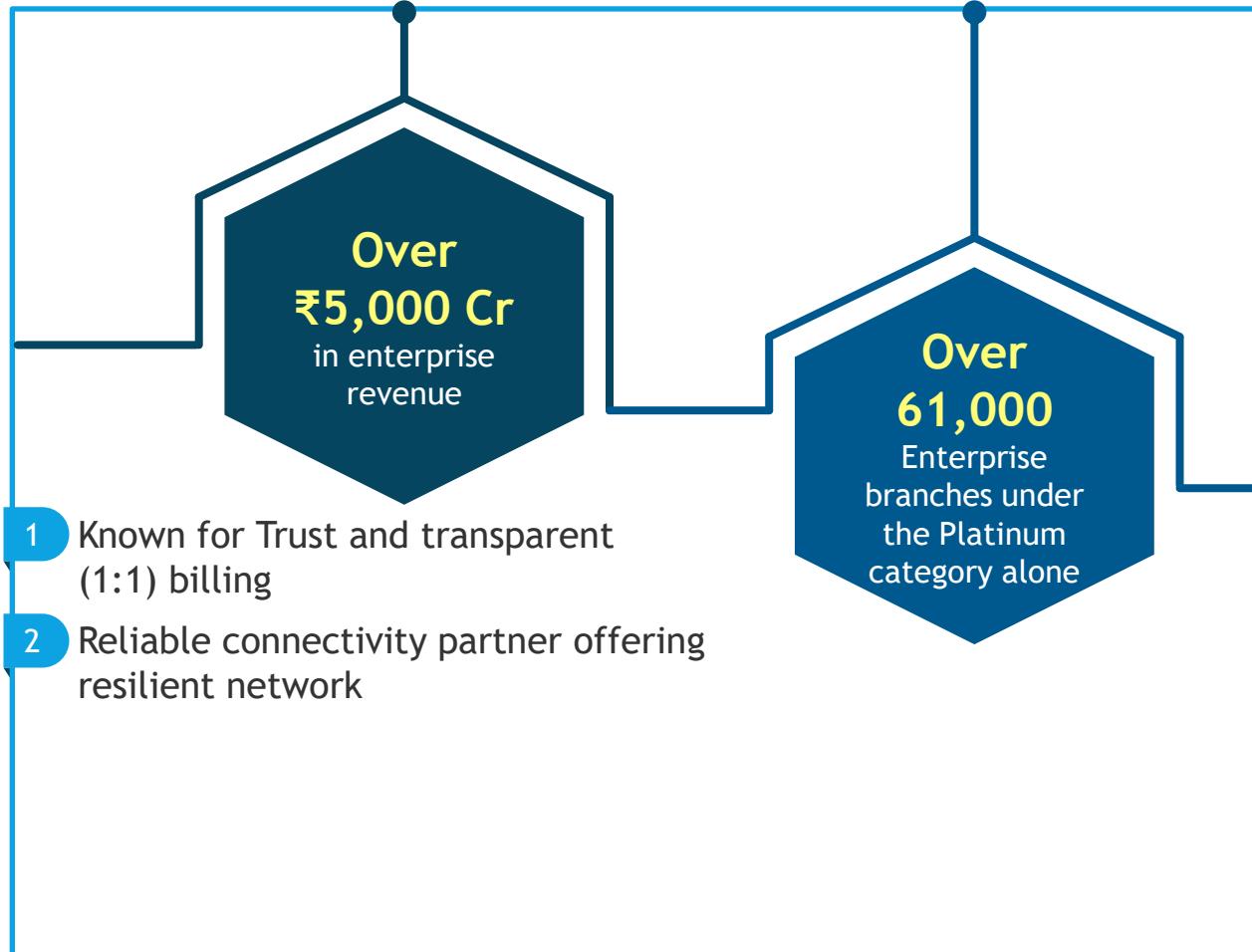
4



Bandwidth Flexibility & Application Support

- Dedicated or pooled bandwidth tailored to enterprise needs - from 4 kbps to multi-Mbps
- Works across IPv4, IPv6 protocol and integrates into existing WAN infrastructure

The BSNL Advantage: Scale, Trust and Service



Why BSNL VSAT?



BSNL is a **100% Government of India-owned** telecom company with a decades-long track record



BSNL is the **first VSAT service provider** in India to use High Throughput Satellite, providing pan-India connectivity



Pan-India **Ka- & Ku- band coverage** using 16 spot beams, offering high-speed satellite connectivity with smaller, cost-efficient terminals

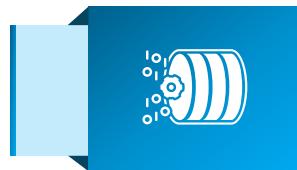


Redundancy ensured on BSNL Optical gigabit super-highways

Salient features of VSAT

-  Compatible with all IP (v.4 & v.6) protocols
-  Shared & **customised bandwidth** per customers requirements
-  **Quick network deployment** including inaccessible/remote areas
-  In built GRE Tunneling allowing **secure** and **efficient integration** with core network
-  Transparent to IPsec Protocols

BSNL VSAT Terminal features



Maximum Trans/Receive Data **up to 100 Mbps** with 10/100 Mbps Base-T Ethernet interface



VoIP telephony with SIP Phones



Power consumption: 30W (AC input power)

Compact Indoor Unit (IDU)



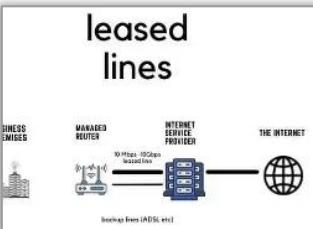
Occupies very little space; Connected to VSAT antenna through RG-6 cable of maximum 30m length

Outdoor Unit (ODU)



Antenna (1.2m, 1.8m, and 2.4m), Low Noise Block (LNB), Block Up Converter (BUC), and feeder assembly

BSNL offers the following services in VSAT



Leased lines through VSAT on IP platforms: 4kpbs onwards



High speed broadband internet



DVB-S2X Enabled



VPN Networking



Voice telephony, video conferencing & video streaming



Facsimile



Create VPNs with VSAT Network, MLLN nodes, MPLS nodes of BSNL



Interworks with existing BSNL Internet, MPLS & MLLN



Marginal additional **investment** with existing BSNL MPLS, MLLN